C2 REM
COORDINATION, CLIENT REPRESENTATION AND ENVIRONMENTAL MANAGEMENT

April 30, 1997

Ms. Kay Lawrence
U.S. EPA - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Project No. 95-103

Transmittal
Technical Memorandum No. 11A
Omega Chemical Site

Dear Ms. Lawrence,

Attached is Technical Memorandum No. 11A, Results of Offsite CPT/Ground Water Investigation for the Omega Chemical Site in Whittier, California. Should you have any questions, please call me at 714-261-8098.

Sincerely,

Edmond F. Bourke
Project Coordinator

Attachment

cc: Michael Schwennesen, Ecology & Environment
David Rabbino, U.S. EPA - Region IX
OPOG Steering Committee
Dan Boone, Boone & Associates

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ORDER 95-15
TECHNICAL MEMORANDUM No. 11A
Omega Chemical Site, Phase II Program
Whittier, California

SUBJECT: Results of Offsite CPT/Ground Water Investigation

SUBMITTED TO: Kathryn D. Lawrence, EPA Region IX **DATE:** 4/30/97

SUBMITTED BY: Edmond Bourke,
OPOG Project Coordinator

cc: OPOG Technical and Steering Committees
Boone & Associates
Michael Schwennesen

1.0 INTRODUCTION

The purpose of this Technical Memorandum (TM) is to document the activities and results of the recent offsite ground water field investigation for the Omega Chemical Site (Site). The Work undertaken and discussed in this TM includes the installation of four CPT borings and collection of ground water samples from four temporary piezometers downgradient of the Site (see Figure 1) in the cities of Sante Fe Springs and Whittier on March 11 and 12, 1997.

The Scope of Work for this field investigation and additional associated activities described in this TM is provided in more detail in TM No. 11 dated February 7, 1997 (approved by EPA on February 27, 1997).

2.0 DESCRIPTION OF FIELD WORK

On March 11 and 12, 1997, C_2 REM provided oversight of the CPT ground water investigation performed by Gregg Drilling as outlined in the EPA approved TM No. 11. EPA oversight was performed by Ecology and Environment, Inc., (E + E) during this investigation. In addition to oversight activities, E + E collected split ground water samples at each of the locations for independent analysis. A total of four CPT borings were installed in the cities of Whittier and Santa Fe Springs (see Figure 1) to obtain ground water samples and to gauge elevation at each location (as well as at the onsite monitoring well OW-1).

CPT H-14, located on Byron Avenue south of Rivera Road (see Figure 1), was advanced to a depth of approximately 66 feet below ground surface (bgs) and a ground water sample was obtained for analysis at approximately 43 feet bgs using a Hydropunch sampler. A piezometer was installed with a screen interval at 35 feet - 45 feet bgs to obtain ground water elevation data the following day to monitor static conditions. This ground water sample was transported via courier to the laboratory for 24-hour analysis to assist in locating CPT H-17.

CPT H-15, located on Washington Avenue opposite Lambert Avenue, was advanced to a depth of approximately 75 feet bgs and a piezometer was installed with a screen interval between 38 feet and 48 feet bgs. CPT H-16, located at the end of Wellsford Avenue south of Rivera, was pushed to a depth of approximately 53 feet bgs and a piezometer was installed with a screen interval at 40 feet - 50 feet bgs. A ground water sample was obtained from the piezometer at each location immediately following installation.

Preliminary results from the laboratory analysis on the ground water sample taken from H-14 were transmitted from VOC Analytical at the end of the day on Tuesday, March 11, 1997 (see Appendix A). The results indicated several VOCs including, PCE (at 140 $\mu g/l$) were above the maximum contaminant level (MCL) of 5 $\mu g/l$ estimated by modeling (Phase II Close-Out Report by England and Associates and Hargis and Associates). Based on EPA's conditional approval of TM No. 11 and the analytical results from H-15, H-17 was installed on the corner of Wellsford Avenue and Rivera Road.

On Wednesday, March 12, 1997, Gregg Drilling measured the ground water level in CPT H-14, H-15 and H-16 and onsite monitoring well OW-1. Upon review of the piezometer data and gradient evaluation, CPT H-17 was pushed to approximately 77 feet bgs and a piezometer was installed with a screen interval of 30 feet - 40 feet bgs. A ground water sample was taken from the piezometer immediately following installation. The ground water level in CPT H-17 was measured during the evening of Wednesday, March 12, 1997.

3.0 RESULTS OF LABORATORY ANALYSES

Table 1 shows the analytical results for VOCs using EPA method 8240 on each of the four ground water samples. More detailed results with analyses of field duplicates, equipment rinsate samples and trip blanks are shown in Appendix A. Figure 1 shows the analytical results for constituents of interest (including PCE, TCE, Freon 111, Freon 13, 1,1 DCE and 1,2 DCE) at each of the four CPT boring locations.

4.0 REGIONAL HYDROGEOLOGY

Section A-A' (see Figure 2) illustrates a revised interpretation of the regional geology based on the CPT boring logs from the field investigation. Major points in relations to ground water and geologic conditions include:

- The Gaspur Aquifer does not appear to be present in the four CPT borings that were advanced. A silty-clayey material exists from the ground surface to approximately 35 feet bgs.

- Measured ground water elevations ranged from 139.7 feet above mean sea level (amsl) at onsite monitoring well OW-1 to 129.6 feet amsl at CPT H-16. The ground water flow is generally toward the west/southwest (see Figure 3) and is consistent with data from previous field investigations.

- Elevated levels of VOCs above the MCLs (see Figure 1) are present in ground water further down gradient than expected based on modeling by England and Associates and Hargis and Associates.

5.0 CONCLUSIONS AND RECOMMENDATIONS

This work completes the activities outlined in Technical Memorandum No. 11. Should EPA like to discuss these findings, please contact the OPOG Project Coordinator.

EPA Approval by:_____ Date: _____

☐ Approved ☐ Approval Conditional Upon Attached Comments

☐ Disapproved ☐ Additional Information is Required

_____
_____
_____
_____

Attachments:

Table 1 Ground Water Analytical Results Versus Distance from the Site

Figure 1 Analytical Results from CPT/Hydropunch Ground Water Investigation

Figure 2 Section A - A'

Figure 3 Ground Water Elevations - July 1996 & March 1997

Appendix A VOC Analytical Laboratory Results

Appendix B CPT Logs

REFERENCES

C_2 REM, 1997. Technical Memorandum No. 11: Offsite CPT/Hydropunch Investigation. February 10, 1997.

England & Associates, Hargis + Associates, Inc. (England/Hargis), 1995. Phase II Work Plan, Omega Chemical Site PRP Organized Group, Whittier, California. October 27, 1995.

England & Associates, Hargis + Associates, Inc., 1996a. Technical Memorandum No. 4: Shallow Soil Sampling. January 22, 1996.

England & Associates, Hargis + Associates, Inc., 1996b. Technical Memorandum No. 4-A: Supplemental Sampling Information and Offsite CPT Sampling. January 25, 1996.

England & Associates, Hargis + Associates, Inc., 1996c. Addendum No. 1: Standard Operation Procedures for Field Activities, Omega Chemical Site, Whittier, California. March 18, 1996.

England & Associates, Hargis + Associates, Inc., 1996d. Phase II Close-Out Report. October 1, 1996.

U.S. Environmental Protection Agency (EPA), 1995. Unilateral Administrative Order, Docket Number 95-15. Issued to Omega Chemical Corporation and Respondents, Whittier, California. May 9, 1995.

TABLE 1
GROUND WATER ANALYTICAL RESULTS
VERSUS DISTANCE FROM THE SITE
OMEGA CHEMICAL SITE

	Maximum Contaminant Level[1] (µg/l)	Ground Water Sampling Identification							
		OW-1	H-6	H-9	H-13	H-15	H-14	H-16	H-17[2]
Approx. Distance From Site (feet)		0	200	800	1,600	1,600	2,800	4,800	4,700
Constituents (µg/l) : PCE	5	81,000	33,000	2,200	1,100	200	95	71	580 (500)
TCE	5	3,400	6,300	180	170	40	520	3.6	45 (40)
Freon 11	150	990	4,300	630	960	57	49	<1	<1 (<1)
Freon 113	1,200	1,400	7,500	2,100	2,600	220	260	<2	<2 (<2)
Methylene Chloride	5	15,000	110,000	<100	<100	<2	<10	<2	<2 (<2)
Acetone	--	<10,000	26,000	<500	<500	<20	<100	<20	<20 (<20)
Chloroform	100[3]	3,200	22,000	<30	78	40	<5	<1	<1(<1)
1,1 DCA	5	<500	<500	<30	<30	<1	<5	<1	<1 (<1)
1,1 DCE	6	550	6,900	3,400	1,700	140	34	2.4	53 (34)
1,2 DCE	10	<500	<500	<30	<30	<1	8.2	4.5	133.8 (123.8)

(1) More restrictive of California or Federal Regulations
(2) Duplicate sample presented in parenthesis
(3) Total trihalomethanes

FIGURE 1
ANALYTICAL RESULTS FROM CPT/HYDROPUNCH
GROUND WATER INVESTIGATION
(µg/l)
OMEGA CHEMICAL SITE

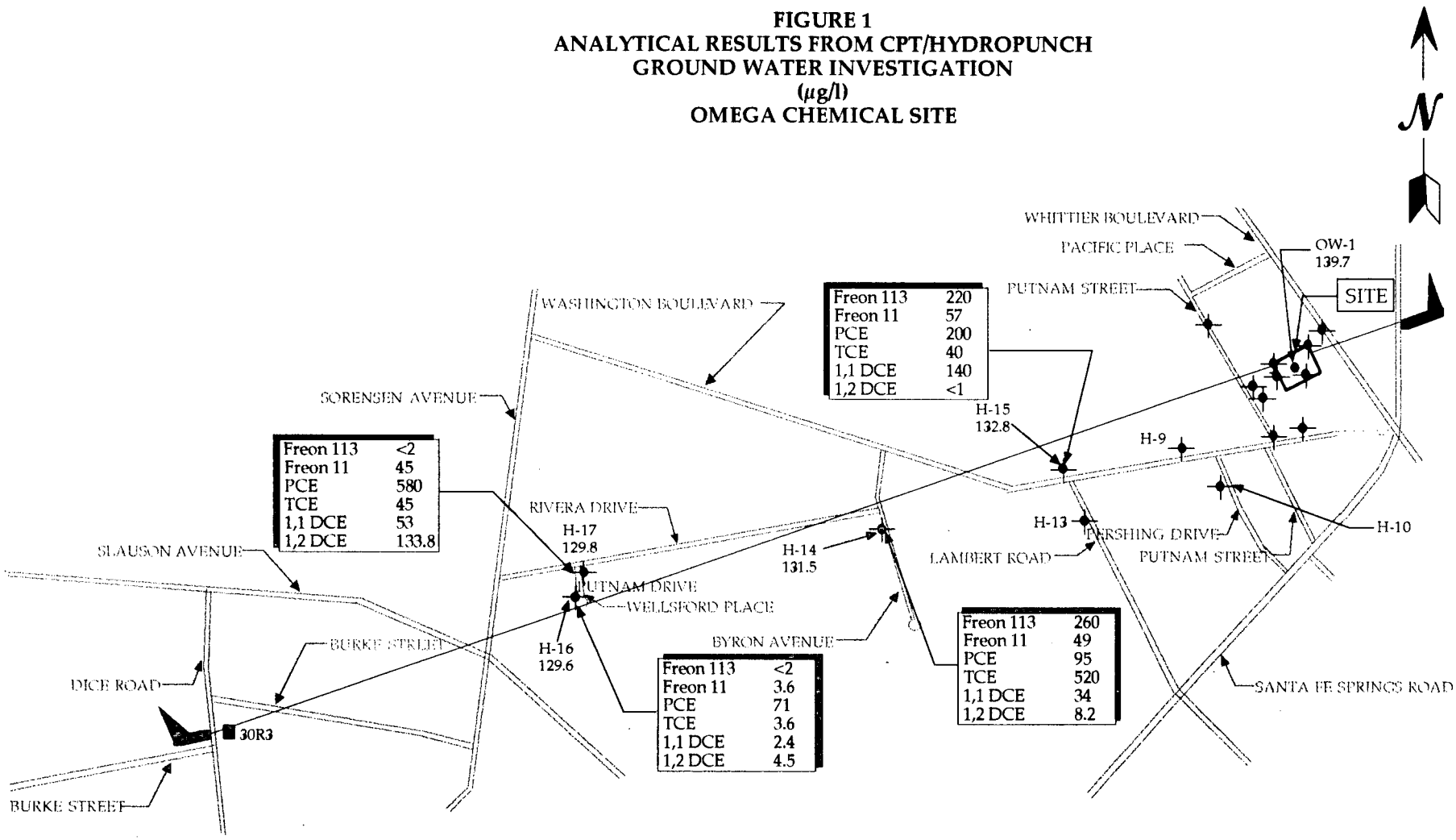


FIGURE 2
SECTION A-A'
OMEGA CHEMICAL SITE

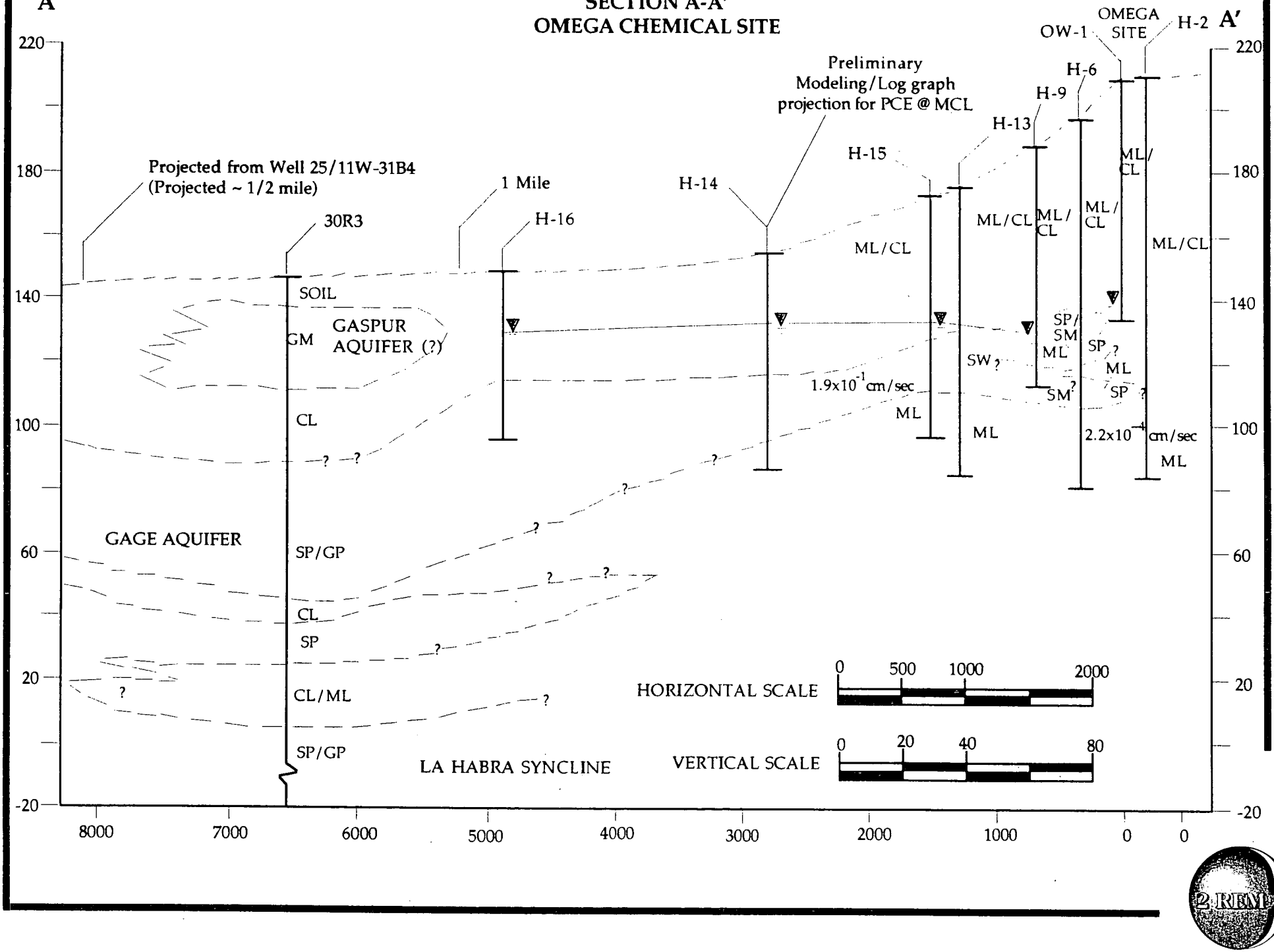
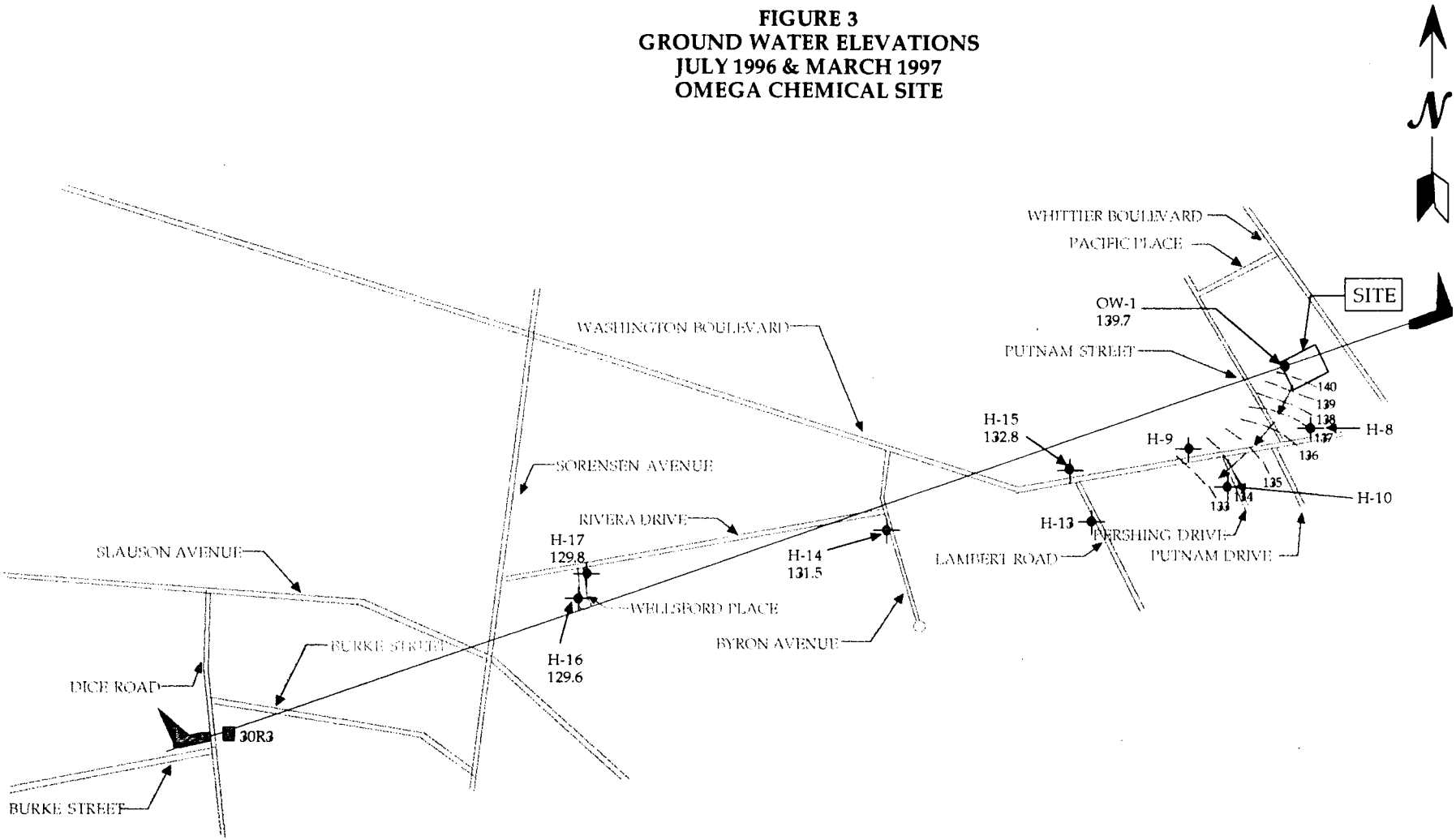


FIGURE 3
GROUND WATER ELEVATIONS
JULY 1996 & MARCH 1997
OMEGA CHEMICAL SITE



APPENDIX A

VOC ANALYTICAL LABORATORY RESULTS